

**Communication, Somali culture and decision-making about the human papillomavirus
(HPV) Vaccine**

Phokeng M. Dailey, MA and Janice L. Krieger, PhD

School of Communication

The Ohio State University

Abstract

The current study uses a multiple goals theoretical perspective to explore how Somali immigrant families in the United States make decisions regarding whether to vaccinate their children against human papillomavirus (HPV). A focus was placed on the communication goals of parents in HPV vaccine discussions with their child and health care provider. 16 semi-structured interviews were audiotaped, transcribed, and analyzed using a grounded theory approach. Key themes were the implications of the vaccine for early sexual activity, confusion between HPV and human immunodeficiency virus (HIV), the perception that the HPV vaccine is unnecessary, uncertainty about the vaccine's efficacy and side effects, avoidance of parent-child communication about the vaccine, and a preference for framing the vaccine as a health promotion behavior. Framing the threat of HPV in the context of initiation of sexual activity, uncertainty regarding vaccine efficacy, and anticipated regret account for the inconsistency in HPV vaccine uptake among Somali parents. Health care providers should consider talking about HPV as a distal versus an immediate threat and HPV vaccine uptake as a health-promotion rather than a sexually transmitted infection (STI) prevention behavior.

Key words: **HPV; vaccine; culture; decision-making; communication**

Introduction

Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States and the leading cause of cervical cancer (Division of STD Prevention, 1999). Vaccines that prevent HPV 16 and 18 have the potential to significantly reduce the incidence of cervical and other anogenital cancers. Both types of vaccines (Gardasil and Cervarix) are administered as a three-dose series and are routinely recommended as early as age 9 (Centers for Disease Control and Prevention, 2012). In the United States, cervical cancer mortality rates among foreign-born women continue to increase despite a decrease in overall US cervical cancer mortality rates (Newmann & Garner, 2005; Seeff & McKenna, 2003). English language use, acculturation, and years spent in the United States, as opposed to ethnicity per se, appear to be the key determinants of cervical cancer screening among minority immigrant women (Yabroff et al., 2005). Immigrant women also face legal, economic, linguistic, and cultural barriers in their efforts to navigate the US health system (Gany & de Bocanegra, 1996). Compared with other African immigrant groups, Somalis are less likely to be insured or have a regular source of health care, have lower rates of English fluency, lower socioeconomic status, and have lower cervical cancer screening rates (Johnson, Ali, & Shipp, 2009; Scuglik, Alarcon, Lapeyre, Williams, & Logan, 2007).

Given the systemic barriers to cervical screening among Somali women, the HPV vaccine may be particularly beneficial within this population. However, developing interventions to promote vaccination is stymied by a lack of research on how Somali parents communicate with their children—the recipients of the vaccine—about the HPV vaccine. The typical vaccine decision is characterized by trust in the overall health system or provider and a belief that vaccinations are “just something you do” (Austvoll-Dahlgren & Helseth, 2010). Consequently,

health care providers may assume that vaccination is an obvious choice and engage in limited information sharing with parents during a consultation. For the parents of a child eligible for the HPV vaccine, participation in decision-making discussion might be limited and adherence to a vaccination regime would not necessarily mean that parents have been appropriately informed about the decision. Another hurdle to use is that HPV targets an infection that is transmitted via skin-to-skin contact with symptoms not evident for sometimes years after initial exposure (Division of STD Prevention, 1999). This is not typical of most infections targeted by vaccinations. Historically, vaccine mandates have targeted diseases that are contracted through casual contact and result in immediate outbreaks (Stewart, 2008). Therefore, decisions to seek a vaccine may not necessarily be an “obvious choice” to many.

Literature Review

Patient–Health Care Provider Communication: Intercultural Context

There are numerous barriers to intercultural communication in health care. Several studies find less compliance and satisfaction and increased misunderstandings in intercultural medical exchanges (Laveist & Nuru-Jeter, 2002; Murray-García, Selby, Schmittiel, Grumbach, & Quesenberry, 2000; Saha, Komaromy, Koepsell, & Bindman, 1999) and that language and dialect are sources of communication difficulty (Hecht, Collier, & Ribeau, 1993). Health care providers tend to dedicate less time to those they perceive to be less educated or intelligent and behave with less affect when interacting with ethnic minority patients than white patients (Schouten & Meeuwesen, 2006; Street, 1992). Ethnic minority patients, in turn, are less verbally expressive or less assertive than white patients (Schouten & Meeuwesen, 2006).

Key predictors of effective communication between physicians and patients include (1) cultural differences in explanatory models of health and illness; (2) differences in cultural values; (3) cultural differences in patients' preferences for doctor–patient relationships, and (4) linguistic barriers (Schouten & Meeuwesen, 2006). In addition, the cultural characteristics of any given group may be indirectly or directly linked to the acceptance of health messages and whether members of that particular group choose to adopt certain behaviors (Kreuter & McClure, 2004). Somali's are a relatively recent immigrant group with strong ties to their country of origin and culture. They experience disparities via multiple pathways, which may include cultural beliefs, language barriers, and mistrust of HCPs (Carroll et al., 2007a). Previous studies have shown that dissatisfaction with health care interactions contribute to decisions to delay medical decisions and seeking care in the future (Hill, Hunt, & Hyrkas, 2011; Pavlish, Noor, & Brandt, 2010). Cultural sensitivity (a willingness to use cultural knowledge while interacting with patients and considering culture during discussions and recommendations for treatment) is of particular importance when HCP's interact with patients from this distinctly different culture (Brislin, 1993; Ulrey & Amason, 2001). Previous research suggests that agreement between the cultural characters of a group and the public health approaches used to reach its members may strengthen salience and acceptance of health information (Hecht & Krieger, 2006; Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999).

Multiple Goals and HPV Decision-Making

Research suggests that communication is central to HPV decisions, whether between health professionals and patients, or parents and children (Krieger, Kam, Katz, & Roberto, 2011; Krieger, Katz, Kam, & Roberto, 2012). A multiple goals theoretical perspective, which stresses

the importance of an individual's goals and the communication strategies used to achieve those goals, is a useful framework for examining HPV vaccine discussions. People enact multiple goals concurrently in communication, including competing goals (Caughlin, 2010). Individuals also subjectively interpret the goals of others in conversations (Caughlin, 2010). For example, if a daughter mentions to a parent that she would like to receive the HPV vaccine, a parent might conclude that the daughter is sexually active.

The parent-child dyad is also important to understanding the HPV vaccine acceptance and uptake (Krieger et al., 2011). Because adolescents typically look to their parents as primary decision-makers regarding health care matters, the ability of parents to communicate about the vaccine and the nature of those discussions should influence the likelihood of uptake. In most cases, parents must provide consent if the child is still a minor and as such they are a potential source of both emotional and instrumental support (Krieger et al., 2011). A recent study showed that some mothers express a desire to involve their daughters in the HPV decision process through discussion (Dempsey, Abraham, Dalton, & Ruffin, 2009). However, a major barrier to such open discussions is fear that adolescents will interpret support for vaccination as approval for engaging in sexual activity (Bartlett & Peterson, 2011; Brewer & Fazekas, 2007; Krieger et al., 2012). Parent-child communication regarding adolescent protective sexual health is an important component of parental consideration of HPV immunization, as parents who are willing to discuss sex, sexually transmitted infections, HPV, and cervical cancer are more likely to support vaccination (Gamble, Klosky, Parra, & Randolph, 2009). For parents to feel prepared to engage in discussions about sexual health or HPV-related cancers, it is important that they feel adequately informed about the vaccine. Some parents may prefer to engage in less direct

conversations that frame the vaccine as a cervical cancer preventive measure, while others may prefer to place the vaccine in the context of overall sexual health decisions (Krieger et al., 2011).

The current study examines how communication preferences determine how Somali immigrant parents frame discussions with their children regarding the HPV vaccine, and whether those discussions are consistent with how their family typically discusses health decisions in the context of Somali immigrant culture. Somali culture is closely intertwined with religious beliefs and we expect that, similar to previous studies, religion and culture will strongly influence the HPV vaccine decision (Constantine & Jerman, 2007; Shelton, Snavely, Jesus, Othus, & Allen, 2011). Specifically, we aimed to understand how Somali families, members of the largest African-immigrant population in the US, articulate health, engage in discussions about the HPV vaccine with their HCP and child, and consequently make the decision regarding HPV vaccine uptake.

Methods

Recruitment

This IRB approved study was conducted in Columbus, Ohio over a four month period (January-April, 2013). Self-identified Somalians who were parents or guardians of children aged 9-17 were recruited for the study. The study targeted parents or guardians, rather than the patients, because legal minors need parental consent prior to receiving the HPV vaccine. Participation was voluntary, and the researcher travelled to the participants' venue of choice to conduct the interviews.

Initial recruitment was done by way of flyers and recruitment letters in a local immigration office. Participants could complete the bottom portion of a recruitment letter to

request more information about the study and mail it to the project manager in a postage-paid reply envelope or return it to the immigration attorney's office. A non-participant, Somali parent and/community member helped identify potential recruitment issues prior to the distribution of recruitment materials. One of the main recruitment issues she identified was linked to the topic of study. She indicated that Somali women have been the object of studies that have often engaged them with preconceived notions about the reproductive and sexual health issues they face. She recommended that we pay particular attention to the language in the recruitment documents and explicitly communicate the study goals.

18.75% ($n = 3$) of participants responded to the recruitment letter. The translator recommended the 4th and 5th participants in this study. A key informant (Interviewee #5) emerged as a result of the initial recruitment process. After the fifth interview, recruitment took place through snowball sampling, in which the participant recommended the study to other Somali parents she knew. 81.25% ($n = 13$) of the interviews were conducted in a small shop in a Somali owned shopping plaza and this also generated interest in the study. The final sample was comprised of 15 female parents and 1 female guardian. One potential participant initially agreed to participate but refused on the day she was scheduled to be interviewed.

Participants

The final sample included 15 female parents and one female guardian ($N = 16$). Ages of participants ranged from 22 to 47 ($M = 36.3$, $SD = 6.2$). All participants identified as black/African, subscribed to Islam, and considered themselves active in the practice of their religion. The number of years spent in the United States ranged from 3 to 17 ($M = 11$, $SD = 4.3$), and 75% of the parents did not speak or were partially fluent in English, and 25% were fluent in English. Nine reported annual incomes of less than \$10,000, four reported incomes between

\$10,000 and \$19,999, two were between \$20,000 and \$29,999, and one reported income between \$30,000 and \$39,999. Twelve participants reported being covered by a government health insurance plan, and four had no health insurance at some point during the last 12 months. The highest level of school completed among participants was high school graduate (see Table 1 for more demographic information).

Data Collection and Analysis

The study used a semi-structured interview format (Appendix A), which included a post-interview survey. The purpose of the interview, as explained to participants, was to understand how culture influenced vaccine decision-making. Some interview questions were adapted from previous studies done with Somali women (Carroll et al., 2007b), and some questions were revised based on emerging data as well as interviewee input. Two practice interviews were conducted with 2 mothers prior to the beginning of this study. Information gleaned from those interviews was used to add questions to the semi-structured guide and to re-structure several questions that were confusing to the interviewees during the formative research stage. A professional interpreter was used for non-English speaking participants and for those who preferred to speak in their primary language. The interviews lasted approximately 60 minutes. Several participants chose to be interviewed in venues where family or friends were present.

All 16 interviews were audiotaped, transcribed, and analyzed using a grounded theory approach (Charmaz, 2006). Following the interview, participants completed a survey, administered orally by the researcher, asking about gender, marital status, race/ethnicity, religion, income level, education, employment status, and health insurance status (see Table 1).

The study used data analysis procedures similar to those outlined by Corbin and Strauss (2008). Each interview was listened to from beginning to end prior to transcription. Once the

initial reading of each interview was completed, the interview was transcribed. Open-coding was used to explore for the ideas contained within each interview (Charmaz, 2006; Corbin & Strauss, 2008). After grouping units into categories interview transcripts were analyzed for units that could be grouped under previous categories and those that could not were assigned to new categories. After open coding and conceptual labels were placed on each interview, the interviews were compared to determine whether there were common ideas across the board and related concepts within the interviews. The interviews were then compared to identify common ideas and related concepts. Coding of the first interview was done immediately after it was completed to inform both the process and types of probes used in subsequent interviews. Subsequent interviews were also open-coded immediately after transcription. Post-transcription, each interview was read from beginning to end and then data in each interview was broken into manageable pieces. The following section describes the results of this study. Names of participants have been changed to maintain anonymity.

Results

Language, Culture, and HPV Decision-Making

Three main themes emerged. The first pertained to parents' worry that vaccination signaled to their child consent for early sexual activity. The second was parents' confusion about the difference between HPV and HIV. The third theme was the perception that HPV was not a necessary vaccine.

Four participants recalled the vaccine as the "sex vaccine." Several participants described the vaccine as "for the bad girls" or "women who are promiscuous or engage in some sort of wild sexual behavior." The majority of participants (n = 14; 88%) expressed concerns that

children would interpret the vaccine as parental approval of sexual activity outside of marriage and/or of promiscuity. Several parents described the vaccine as normalizing early sexual activity. One participant said, “I don’t want her to think she’s protected and—I’m giving her the idea that it’s easy for her to do this—sex for a young girl.” All participants used the word “culture” to explain the moral implications of vaccinating an adolescent child against a sexually transmitted infection. There was a general belief that the concept of sexual activity outside of marriage was a “Western” cultural value and one that was likely driving the push to administer an STI vaccination. A mother who declined the vaccine indicated that she understood why the doctor was recommending the vaccine: “This is something that is normal for them [Americans] to get this thing or for their kids to be active like that at that age.”

A second theme that emerged was that several parents were unfamiliar with the name HPV, and/or the severity of HPV infection. A mother who declined the vaccine indicated that she was initially confused about the difference between HPV and HIV, and still wasn’t fully grounded in how they differed in terms of transmission. “Maybe the doctor was saying we can protect from HPV with a medicine. Maybe it’s different—maybe it’s same thing, this HPV and HIV. It’s still something we are preventing with the good behavior.” Another participant who confused HPV with HIV indicated that she would advise her daughter of other ways she could contract HPV: “I will tell her other ways you can get this. I’ll tell her you can get this from needles.”

Parents had positive attitudes toward vaccines for what they considered to be severe infections that their children could easily contract (i.e., measles, polio, and hepatitis). Mothers described seasonal vaccinations, such as the flu vaccine, as unnecessary and that they could decline without fear of seriously compromising the health of the child. One participant

categorized the flu and HPV vaccine as similarly unnecessary, “I’m not doing the vaccine for a thing that...to be honest it’s like the flu...And my daughter don’t have to get it [HPV]. She can make a good decision for health and not get it.” Parents were particularly wary of multiple-dose vaccines, particularly regarding seasonal vaccines that they considered optional. “From what I heard,” said one mother, “it’s a seasonal vaccine [flu]. And every time you give it...he’ll get used to it...So the more you give the more the child gets immune to it and it won’t help anything.” Participants reported being immunized for the same disease multiple times due to refugee status and migration, as this woman said: “I heard that a lot of the moms—they giving the MMR to the moms when they get here—the double immunization because a lot of refugees, when they come they don’t have papers. So they gonna make you start all over with the immunization.” Mothers also connected the MMR vaccine (necessary) and HPV vaccine to a perceived threat of autism as a result of vaccination: “My cousin was given this HPV. He’s—now he’s not talking. He goes to school but is not normal in the healthy way.”

Parent–Health Care Provider HPV Vaccine Communication

Two main themes emerged regarding communication goals of Somali parents in the context of HPV vaccine discussions with their child’s health care provider: the vaccine’s efficacy and its side effects.

Only six participants (37%) reported having a conversation with their child’s health care provider about the vaccine. The six described conversations did not explicitly address vaccine efficacy concerns, which could be significant given that parents also reported that if the HPV vaccine were safe and efficacious they would be open to giving it to their child. In general, parents were cautious about the HPV vaccine, stating they needed to weigh the risks and benefits before making a decision. The question of whether the HPV vaccine promotes health was

mentioned repeatedly during the interviews. Three of the participants asked the researcher to explain how the vaccine contributes to health and wanted to know whether she would recommend the vaccine.

All participants reported some concern about potential short- and long-term side effects, but also that physician recommendation would likely influence their decision to vaccinate their children. One mother said, “At that time, when the doctor explains it, and if it doesn’t cause any problems to my daughter, then I will tell her to take the shot.” Another mother, Hodman said, “If I make an appointment and show up there and the doctor says this is what your daughter is needing—this is something that is good for her then yes, this is something I would consider. If he says this is something that is for the health then of course I’m going to be considering this. But I’m not sure yet.” Several participants said they would need to do additional research about side effects prior to making a decision. They cited online information and advice from others who had vaccinated their children as potential sources to reduce uncertainty. As one mother said, “I will find and search—is it in the computer? I’m gonna look on internet. I will do that to see if it’s safe.”

Parent-Child HPV Vaccine Communication

Two main themes emerged regarding communication goals of Somali parents with their children. The first was parents’ strategic avoidance of the issue, and the second was a desire to frame the vaccine as a health promotion behavior.

The majority of participants (88%) reported that they had not engaged in any discussions with their children about the HPV vaccine. This group did not believe their children were old enough to be integrally involved in decisions regarding their health, but they did foresee having discussions at a more developmentally appropriate time. Discussion of the HPV vaccine would be appropriate when the parents were ready to begin discussing sexual health with their children.

The Somali cultural belief that sexual activity should only take place within the context of marriage was cited as the primary reason for avoiding discussion of the vaccine and uptake. Aniso, the mother of a ten-year old girl, stated, “I don’t wanna tell about that one. She’s too young for that. When they older—yah I will tell her,” and Ilhaan stated, “No, I won’t tell my daughter. First of all she’s a kid. Second, she will now get the idea that my mom was giving me the immunization for the—something in terms of sexual outcome. I don’t want her to get the idea of that’s what I was doing.” Only two parents indicated that they would feel comfortable discussing the vaccine with their children. These were parents who also expressed that they had already had discussions with their children about sex and/or making sexually healthy choices.

When parents did consider speaking to their children about the vaccine, they overwhelmingly said they would frame the vaccine as a health promoting behavior—citing the benefits of being vaccinated against diseases that can be spread from person-to-person—rather than as an STI preventive measure. This approach, they said, mirrored the way they would typically approach a health conversation with their child. One mother, who was still unsure whether she would consent to vaccination of her 10-year-old daughter, said, “I’m going to tell her this is like other immunizations that will help with preventing disease. I don’t have to talk about the other stuff. It’s not necessary when she’s so young... I want to focus on the good health.” Another mother who planned to have her son vaccinated in the future said she would emphasize the long-term health benefits and draw on Islam’s stance on health. She indicated that she would emphasize that exposure to sexually transmitted infection can occur within a marriage:

“I’m going to tell him this is for health.—this shot is something that will prevent you from getting any infection from your wife if she is sick. But only for when you’re married.”

Discussion & Conclusion

Discussion

Somali parents strongly identify with their cultural background and it shapes how they choose to behave, how they define themselves, and how they consequently communicate with others (Rogers & Steinfatt, 1999). This is consistent with a multiple goals and intercultural perspective that emphasizes the reciprocal nature of communication (Caughlin, 2010; Gudykunst & Ting-Toomey, 1988). The present study delineates a Somali cultural value, which informs HPV vaccine decision-making and how parents talk to their children about the vaccine. Somali culture continues to strongly adhere to the belief that sexual activity should occur solely within the context of marriage and this value informs ways in which parents are willing to engage in discussion about the vaccine with their children.

Participating parents generally held favorable views about vaccines their children had previously received, however this view did not necessarily extend to the HPV vaccine. The HPV literature has continued to document concerns about sexual disinhibition among teenage girls as a result of vaccine uptake (Bartlett & Peterson, 2011; Forster, Wardle, Stephenson, & Waller, 2010; Gamble et al., 2009; Schuler, Reiter, Smith, & Brewer, 2011) without clear evidence to support the belief that vaccination might give adolescents a false sense of protection, nor any to substantiate that parental refusal of the vaccination is necessarily linked to a similar concern. In fact, a recent study used clinical markers of sexual activity after HPV vaccination to demonstrate that HPV vaccination of 11- to 12-year olds is not associated with increased sexual activity related outcomes rates (Bednarczyk, Davis, Ault, Orenstein, & Omer, 2012). In the case of this study, even when parents indicated that they were considering having their children vaccinated in the future, they would nonetheless avoid discussions with their children about sexual health and instead promote abstinence among their young children. Somali parents largely subscribed to the

belief that their children would interpret discussion of an STI vaccine as acceptance of sexual activity outside of marriage.

The results also demonstrate how a particular communication preference may determine how parents frame HPV vaccine discussions with their children. Somali parents were likely to make the error of omission if they thought vaccination uptake promoted sexual activity, but not as likely if they thought vaccination promoted health. Parents who preferred to avoid discussions about sexual health with their adolescent children also preferred to place the HPV vaccine in the context of a discussion of general health promotion, rather than STI prevention. Health care providers might therefore increase uptake in this population by emphasizing the link between HPV and cervical cancer rather than as a STI prevention.

This study has several limitations, which may have affected the interpretation of results. Although we sought to interview both male and female participants, the final sample was composed of only female parents. We cannot rule out the possibility that other themes may have emerged had male parents been interviewed. Mothers are the primary caregivers and health decision-makers for children within the Somali community, which likely influences the nature of parent-child communication about the vaccine. In addition, many of the interviews were conducted in the presence of other female family members and/or friends. The presence of others may have precluded some participants from freely expressing their beliefs if they suspected they were unpopular or did not align with the norms and values of traditional Somali culture. On the other hand this small group dynamic may have helped minimize the role of the researcher, and consequently response bias. The informal groups are also a reflection of how many respondents indicated they make decisions – within a collective.

We must allow for the possibility that question 3 (Appendix A) may have primed social identity among participants. The question asked participants to comment on whether they thought health problems are different for Somali families living in the United States than for families still residing in Somalia. The wording of the question could have made immigrant group status more salient than Somali culture group status. This did not appear to be the case among participants. Question 3 made western culture salient, and this outgroup served as a critical reference point that activated the social identity of interest in this study—Somali culture. The sample population was also relatively homogenous (Somali immigrant, female, low-income, and lower levels of education) and as such, the results are not generalizable. However, the qualitative paradigm does not seek to produce findings that are generalizable. The qualitative approach aims to understand the social world from the perspective of the respondents.

Conclusion

This study demonstrates some of the challenges and opportunities in increasing uptake of the HPV vaccine among immigrant Somali populations. All of the participants in this study indicated that they were primarily responsible for making health decisions for children in their households. This underscores the importance of targeting HPV decision-making interventions to mothers. As the results revealed, a major barrier to vaccination among Somali parents is the worry that their children would interpret their endorsement of the HPV vaccine as license for early sexual activity. Somali parents were likely to avoid discussions if they thought vaccination uptake promoted sexual activity, but less so if they thought vaccination promoted health. In addition, lack of information about the side effects of the vaccine and uncertainty about the vaccine's efficacy were also barriers. Parents preferred to decline the vaccine in favor of waiting for additional information about the vaccine's ability to promote health and its associated side effects. This delayed decision-making is consistent with the omission bias literature, which

indicates that individuals will feel more responsible for outcomes associated with action than those associated with inaction (Asch et al., 1994).

Practical Implications

Health care providers are still largely the primary influencers of vaccine uptake. Parents in this study reported limited knowledge about the vaccine, its efficacy, and any short- or long-term side effects, and a health care provider recommending the vaccine will likely be considered the most credible source of information. Somalis tend to appreciate oral communication above all other forms. However, owing to the cultural emphasis on saving face, they may prefer indirect rather than a direct Western communication style (Putman & Noor, 1999; Schouten & Meeuwesen, 2006). In-person discussion will be particularly important with a population that is not highly fluent in English but is often expected to read about the vaccine independently. It will be equally important to frame the conversation carefully. A health care provider who frames the threat of HPV in the context of initiation of sexual activity is likely to deter parents from consenting. In contrast, framing the HPV vaccine as a method of promoting future health would likely resonate more. Contrary to those who would argue that health messages should be framed as more imminent health threats (Chandran & Menon, 2004), the results here suggest that health care providers should consider talking about the threat of HPV as a more distant threat (within the context of marriage, in this case) versus an immediate one with members of this population.

References

- Asch, D. A., Baron, J., Hershey, J. C., Kunreuther, H., Mezaros, J., Ritov, I., & Spranca, M. (1994). Omission bias and pertussis vaccination. *Medical Decision Making*, 14, 118–123.
- Austvoll-Dahlgren, A., & Helseth, S. (2010). What informs parents' decision-making about childhood vaccinations? *Journal of Advanced Nursing*, 66, 2421–2430. doi:10.1111/j.1365-2648.2010.05403.x
- Bartlett, J. A., & Peterson, J. A. (2011). The uptake of human papillomavirus (HPV) vaccine among adolescent females in the United States: A review of the literature. *The Journal of School Nursing*, 27, 434–446. doi:10.1177/1059840511415861
- Bednarczyk, R. A., Davis, R., Ault, K., Orenstein, W., & Omer, S. B. (2012). Sexual activity-related outcomes after human papillomavirus vaccination of 11- to 12-year-olds. *PEDIATRICS*, 130, 798–805. doi:10.1542/peds.2012-1516
- Brewer, N. T., & Fazekas, K. I. (2007). Predictors of HPV vaccine acceptability: A theory-informed, systematic review. *Preventive Medicine*, 45, 107–114. doi:10.1016/j.ypmed.2007.05.013
- Brislin, R. (1993). *Understanding culture's influence on behavior*. Orlando, FL: Harcourt Brace.
- Carroll, J., Epstein, R., Fiscella, K., Gipson, T., Volpe, E., & Jean-Pierre, P. (2007a). Caring for Somali women: Implications for clinician-patient communication. *Patient Education and Counseling*, 66, 337–345.
- Carroll, J., Epstein, R., Fiscella, K., Volpe, E., Diaz, K., & Omar, S. (2007b). Knowledge and beliefs about health promotion and preventive health care among Somali women in the United States. *Health Care for Women International*, 28, 360–380.
- Caughlin, J. P. (2010). A multiple goals theory of personal relationships: Conceptual integration and program overview. *Journal of Social and Personal Relationships*, 27, 824–848. doi:10.1177/0265407510373262
- Centers for Disease Control and Prevention. (2012, August 9). Sexually Transmitted Diseases (STDs): Genital HPV infection - Fact sheet. Retrieved September 17, 2012, from <http://www.cdc.gov/std/HPV/HPV-Factsheet-Aug-2012.pdf>
- Chandran, S., & Menon, G. (2004). When a day means more than a year: Effects of temporal framing on judgments of health risk. *Journal of Consumer Research*, 31, 375–389. doi:10.1086/422116
- Charmaz, K. (2006). *Constructing grounded theory : A practical guide through qualitative analysis*. London; Thousand Oaks, Calif.: Sage Publications.

- Constantine, N. A., & Jerman, P. (2007). Acceptance of human papillomavirus vaccination among Californian parents of daughters: A representative statewide analysis. *Journal of Adolescent Health, 40*, 108–115. doi:10.1016/j.jadohealth.2006.10.007
- Corbin, J., & Strauss, A. (2008). Analyzing data for concepts. In *Basics of Qualitative Research* (pp. 159–245). Los Angeles: Sage.
- Dempsey, A. F., Abraham, L. M., Dalton, V., & Ruffin, M. (2009). Understanding the reasons why mothers do or do not have their adolescent daughters vaccinated against human papillomavirus. *Annals of Epidemiology, 19*, 531–538. doi:10.1016/j.annepidem.2009.03.011
- Division of STD Prevention. (1999, December). Prevention of genital HPV infection and sequelae: report of an external consultants' meeting. *Atlanta, GA: Centers for Disease Control and Prevention*. Retrieved from <http://www.cdc.gov/std/hpv/HPVSupplement99.pdf>
- Forster, A., Wardle, J., Stephenson, J., & Waller, J. (2010). Passport to promiscuity or lifesaver: Press coverage of HPV vaccination and risky sexual behavior. *Journal of Health Communication, 15*, 205–217. doi:10.1080/10810730903528066
- Gamble, H. L., Klosky, J. L., Parra, G. R., & Randolph, M. E. (2009). Factors influencing familial decision-making regarding human papillomavirus vaccination. *Journal of Pediatric Psychology, 35*, 704–715. doi:10.1093/jpepsy/jsp108
- Gany, F., & de Bocanegra, T. H. (1996). Overcoming barriers to improving the health of immigrant women. *Journal of the American Medical Women's Association, 51*, 155-160.
- Gudykunst, W., & Ting-Toomey, S. (1988). Culture and communication. In *Culture and Interpersonal Communication* (pp. 17–37). Newbury Park, CA: Sage Publications.
- Hecht, M. L., Collier, M., & Ribeau, S. (1993). *African American communication : Ethnic identity and cultural interpretation*. Newbury Park: Sage Publications.
- Hecht, M. L., & Krieger, J. L. (2006). The Principle of Cultural Grounding in School-Based Substance Abuse Prevention The Drug Resistance Strategies Project. *Journal of Language and Social Psychology, 25*, 301–319. doi:10.1177/0261927X06289476
- Hill, N., Hunt, E., & Hyrkas, K. (2011). Somali Immigrant Women's Health Care Experiences and Beliefs Regarding Pregnancy and Birth in the United States. *Journal of Transcultural Nursing, 23*, 72–81. doi:10.1177/1043659611423828
- Johnson, C., Ali, S., & Shipp, M. P-L. (2009). Building community-based participatory research partnerships with a Somali refugee community. *American Journal of Preventive Medicine, 37*, S230–S236.

- Kreuter, M. W., Lukwago, S. N., Bucholtz, D. C., Clark, E. M., & Sanders-Thompson, V. (2003). Achieving cultural appropriateness in health promotion programs: Targeted and tailored approaches. *Health Education & Behavior, 30*, 133–146. doi:10.1177/1090198102251021
- Kreuter, M. W., & McClure, S. M. (2004). The role of culture in health communication. *Annual Review of Public Health, 25*, 439–455. doi:10.1146/annurev.publhealth.25.101802.123000
- Krieger, J. L., Kam, J. A., Katz, M. L., & Roberto, A. J. (2011). Does mother know best? An actor-partner model of college-age women's human papillomavirus vaccination behavior. *Human Communication Research, 37*, 107–124. doi:10.1111/j.1468-2958.2010.01395.x
- Krieger, J. L., Katz, M. L., Kam, J. A., & Roberto, A. (2012). Appalachian and non-appalachian pediatricians' encouragement of the human papillomavirus vaccine: Implications for health disparities. *Women's Health Issues, 22*, e19–e26. doi:10.1016/j.whi.2011.07.005
- Laveist, T. A., & Nuru-Jeter, A. (2002). Is doctor-patient race concordance associated with greater satisfaction with care? *Journal of Health and Social Behavior, 43*, 296–306.
- Murray-García, J. L., Selby, J. V., Schmittiel, J., Grumbach, K., & Quesenberry, C. P., Jr. (2000). Racial and ethnic differences in a patient survey: patients' values, ratings, and reports regarding physician primary care performance in a large health maintenance organization. *Medical Care, 38*, 300–310.
- Newmann, S., & Garner, E. (2005). Social inequities along the cervical cancer continuum: a structured review. *Cancer Causes and Control, 16*, 63–70.
- Pavlish, C. L., Noor, S., & Brandt, J. (2010). Somali immigrant women and the American health care system: Discordant beliefs, divergent expectations, and silent worries. *Social Science & Medicine, 71*, 353–361.
- Putman, B. M., & Noor, M. C. (1999). *The Somalis: Their History and Culture*. Washington, D.C.: Center for Applied Linguistics, Refugee Service Center.
- Resnicow, K., Baranowski, T., Ahluwalia, J. S., & Braithwaite, R. L. (1999). Cultural sensitivity in public health: Defined and demystified. *Ethnicity & Disease, 9*, 10–21.
- Rogers, E., & Steinfatt, T. (1999). *Intercultural communication*. Prospect Heights, IL: Waveland Press.
- Saha, S., Komaromy, M., Koepsell, T. D., & Bindman, A. B. (1999). Patient-physician racial concordance and the perceived quality and use of health care. *Archives of Internal Medicine, 159*, 997–1004.

- Schouten, B. C., & Meeuwesen, L. (2006). Cultural differences in medical communication: a review of the literature. *Patient Education and Counseling*, 64, 21–34. doi:10.1016/j.pec.2005.11.014
- Schuler, C. L., Reiter, P. L., Smith, J. S., & Brewer, N. T. (2011). Human papillomavirus vaccine and behavioural disinhibition. *Sexually Transmitted Infections*, 87, 349–353. doi:10.1136/sti.2010.048017
- Scuglik, D. L., Alarcon, R. D., Lapeyre, A. C., Williams, M. D., & Logan, K. M. (2007). When the poetry no longer rhymes: Mental health issues among Somali immigrants in the USA. *Transcultural Psychiatry*, 44, 581–595. doi:10.1177/1363461507083899
- Seeff, L. C., & McKenna, M. T. (2003). Cervical cancer mortality among foreign-born women living in the United States, 1985 to 1996. *Cancer Detection and Prevention*, 27, 203–208.
- Shelton, R. C., Snaveley, A. C., Jesus, M., Othus, M. D., & Allen, J. D. (2011). HPV vaccine decision-making and acceptance: Does religion play a role? *Journal of Religion and Health*, 52, 1120–1130. doi:10.1007/s10943-011-9553-x
- Stewart, A. (2008). Childhood vaccine and school entry laws: The case of HPV vaccine. *Public Health Reports*, 123, 801–803.
- Street, R. L. (1992). Communicative styles and adaptations in physician-parent consultations. *Social Science & Medicine*, 34, 1155–1163.
- Ulrey, K. L., & Amason, P. (2001). Intercultural communication between patients and health care providers: An exploration of intercultural communication effectiveness, cultural sensitivity, stress, and anxiety. *Health Communication*, 13, 449–463.
- Yabroff, K. R., Lawrence, W. F., King, J. C., Mangan, P., Washington, K. S., Yi, B., ... Mandelblatt, J. S. (2005). Geographic disparities in cervical cancer mortality: What are the roles of risk factor prevalence, screening, and use of recommended treatment? *Journal of Rural Health*, 21, 149–157.

Appendix A

Interview Guide

Family

1. Whom do you consider part of your “family”?
2. What are some activities you consider important for your families’ well-being, health or happiness?
3. How do they contribute to your family’s well-being?

Experiences with US health care system:

4. Are health problems different for Somali families in the US than for families in Somalia?
5. Do you think Somali parents have problems getting health care they need for their families?
6. Could you describe any difficulties you’ve faced when accessing health care services?

Conceptions of Illness/health:

7. Is there any reason that you would take your child(ren) to the doctor if they were not sick?
8. Sometimes when people are sick or have a health problem, they may try different things on their own before going to see a doctor – Do you know of anyone who has done this?
9. Who would you turn to for guidance if you had to make an important decision about your child’s health?

Vaccines:

10. How would you describe your attitude towards vaccines in general?
11. What vaccines has your health care provider offered to you recently?
12. Have you heard of the HPV vaccine?
13. Can you talk to me a little bit about the conversation between you and the health professional who recommended the vaccine? What happened?

HPV Interpersonal Discussion:

14. Other than your health care provider, where have you heard the HPV vaccine discussed?

Parent-child Discussion:

15. Was your child involved in the HPV vaccine decision?
 - Why or why not?
 - Is this how you typically make health decisions?
16. Did you talk to your child about the vaccine prior to making your decision?

- Why or why not?
- In what ways was this discussion the same or different from other health conversations you've had with your child?

Final Decision:

17. How did you make your final decision?

- In what ways was this different from other health decisions you've made?